



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,544	01/14/2005	Hiroshi Mashima	258285US2PCT	1342
22850	7590	05/02/2007		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER LE, TUNG X	
			ART UNIT 2821	PAPER NUMBER
			NOTIFICATION DATE 05/02/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/506,544

Applicant(s)

MASHIMA ET AL.

Examiner

Tung X. Le

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment submitted 03/20/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-5, and 7-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is a response to the Applicant's amendment submitted on March 20, 2007; and claims 3 and 6 are cancelled, and claims 1-2, 4-5, and 7-8 are currently presented in the instant application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

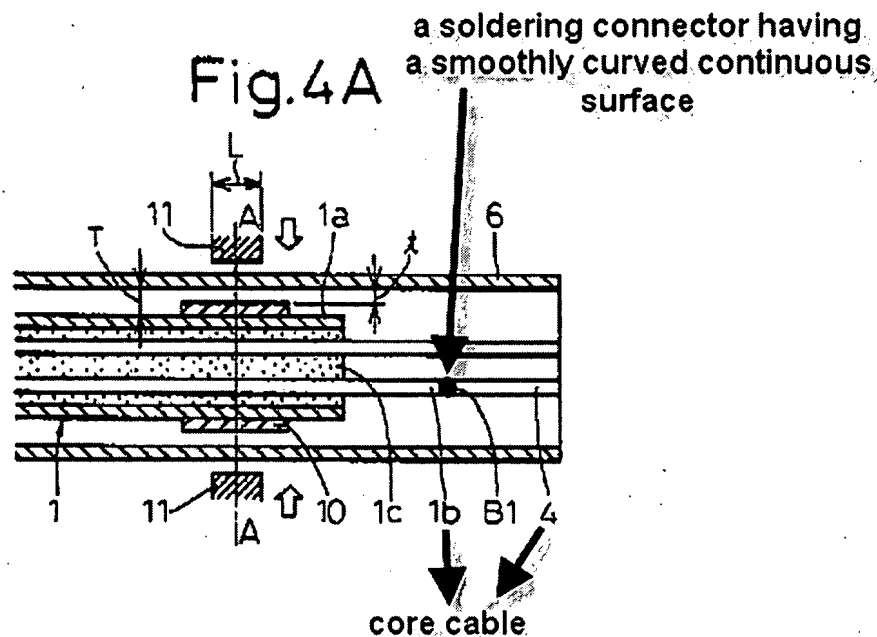
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-5, and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakoshi et al. (U.S. 6,353,201B1) in view of Takahashi et al. (U.S. 6,286,995 B1).

With respect to claim 1, Yamakoshi discloses in figures 1-2 a radio frequency power supply structure for use in a device generating plasma (21) by charging a plate-like electrode (12a, 12b, 12c), facing an earth electrode (figure 2 shows the plate-like electrode facing the earth electrode), with a radio frequency power (16), the radio frequency power supply structure supplying the plate-like electrode (12a, 12b, 12c) with the radio frequency power from an RF cable (15), wherein the RF cable is positioned on an external plane (on same plane with a ladder electrode [11]) of a plane (figure 1) formed by the plate-like electrode (12a, 12b, 12c) to connect to the plate-like electrode; wherein a core cable of the RF cable (15) connects to the plate-like electrode (12a, 12b, 12c) at a connecting position (13) provided between a core cable (15) of the RF cable

Art Unit: 2821

and the palate-like electrode (12a, 12b, 12c) on an end peripheral portion of the plate-like electrode (see figure 1); and wherein the plate-like electrode forms a longitudinal grid plate shape (figure 1) facing the earth electrode (see figure 2) having two lateral electrodes (12b and 12c) form two mutually opposed end peripheral portions (see figure 1) of the plate-like electrode, and a plurality of longitudinal electrodes (12a) arranged between the two lateral electrodes (12b and 12c) so as to be connected to the two lateral electrodes (see figure 1), except for specifying that the connecting position of the core cable (15) and the plate-like electrode (12) so as to form **a smoothly curved continuous surface**. However, Takahashi discloses in figure 4A a smoothly curved continuous surface of a soldering connector (B1) between two conductors (1B and 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the RF plasma generation apparatus of Yamakoshi by employing a smoothly curved continuous surface of the soldering connector between the RF core cable and the electrode in order for improving the impedance, frequency, current, and transmitted signal for generating plasma since such the use of a smoothly curved continuous surface connector has been well known in the art as evidenced by the teaching of Takahashi (figures 4A and 4C).



With respect to claim 2, the combination of Yamakoshi and Takahashi disclose that the end peripheral portion of the plate-like electrode where the connecting is provided forms a right angle to the RF cable (15) on the plane formed by the plate-like electrode at the connection portion (13) forms a right angle with electrode (see Yamakoshi, figure 1).

With respect to claim 4, the combination of Yamakoshi and Takahashi disclose that the RF cable (15) is directed in parallel with the plurality of longitudinal electrodes (12a) to connect to the plate-like electrode at the connecting portion (13) forms a right angle with electrode (see Yamakoshi, figure 1).

With respect to claim 5, the combination of Yamakoshi and Takahashi disclose that the RF cable (15) directly connects to one of the plurality of longitudinal electrodes (12a) at the connecting portion (13) (see Yamakoshi, figure 1).

Art Unit: 2821

With respect to claim 7, the combination of Yamakoshi and Takahashi disclose that an outer shell (15a), functioning as earth, of the RF cable has a front end elongated to the position of the plate-like electrode (12a, 12b, 12c) at the connecting position (13) to form an elongated portion that covers the connecting portion (see Yamakoshi, figure 17).

With respect to claim 8, the combination of Yamakoshi and Takahashi disclose that a plasma CVD device (21) comprises a radio frequency power supply structure (see Yamakoshi, figure 2).

Response to Arguments

4. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X. Le whose telephone number is 571-272-6010. The examiner can normally be reached on 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2821

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Examiner
Tung Le
AU 2821

TRINH DINH
PRIMARY EXAMINER